

that spectrum be allocated fairly, efficiently and equitably and in a manner that will provide the most beneficial local service.⁴⁴

A. FM Translator and LPFM Stations Will Operate at the Expense of New Jersey Listeners

41. FM translator stations, though not subject to minimum distance separation requirements, are subject to contour overlap requirements.⁴⁵ FM translator stations are currently required to protect Class B stations to the 54 dBu contour, Class B1 stations to the 57 dBu contour, and all other classes to the 60 dBu contour.⁴⁶

42. Under this methodology, prohibited interference occurs when the interfering contour of one station overlaps the protected contour of another station. Station A “causes” interference to Station B if Station A’s interfering contour overlaps Station B’s protected contour. Station A “receives” interference from Station B if Station B’s interfering contour overlaps Station A’s protected contour. The second and third adjacent channel interfering contours were calculated on the basis of a 40 dBu desired to undesired (D/U) signal strength

⁴⁴ In addition to physical interference of broadcast signals, the introduction of translators and LPFMs, on the same frequency and in the same markets as existing broadcasters, generates a pernicious form of economic interference. Many FM stations rely on Arbitron ratings in order to generate income to pursue the broadcaster’s mission. These ratings can become distorted when two stations operate on the same frequency in the same market. It would be wrong to think that this phenomenon is an essential consequence of economic competition. Economic competition takes place between stations on different frequencies or between free over-the-air radio and satellite radio. It should not occur as the result of market fragmentation on the same frequency. What is especially significant in New Jersey is that this type of fragmented frequency allocation would not occur if communities in the state had been allotted an equitable number of high powered stations as required by Section 307(b) of the Communications Act. Accordingly, the Commission should also implement a rule prohibiting translator stations from occupying frequencies within Arbitron markets that are already occupied by existing broadcasters.

⁴⁵ Section 74.1204(a) of the Commission’s rules.

⁴⁶ Section 74.1204(a) (1), (2) and (3) of the Commission’s rules.

ratio. This methodology is inadequate to protect a population consisting principally of underpowered, Class A FM stations.

43. In January of 2000, the Commission adopted a Report and Order establishing a low power FM radio service with the laudable goal of “provid[ing] opportunities for new voices to be heard, while at the same time preserving the integrity and technical excellence of existing FM radio service and safeguarding its transition to a digital transmission mode.”⁴⁷ Everyone hopes the Commission’s plan will accomplish the former, but, particularly in New Jersey, its plan does not serve the latter goal of “preserving the integrity and technical excellence of existing FM radio service.”⁴⁸ The service will significantly impair the operation of FM stations in New Jersey, to the detriment of their operations and the public interest.

44. The Commission authorized two new classes of FM radio service. First, it authorized an LP100 class consisting of stations with a maximum power of 100 watts ERP at 30 meters HAAT, providing a signal level equivalent to the FM “protected” service (1 mV/m or 60 dBu) within a radius of approximately 3.5 miles. Second, it authorized an LP10 class consisting of stations with a maximum power of 10 watts ERP at 30 meters HAAT, providing the same signal strength out to approximately 1 or 2 miles from the station’s antenna.⁴⁹

45. Under Section 73.807 of the Commission’s rules, LPFM stations must meet specified co-, first- and second-adjacent channel spacings to full power FM and FM translator stations, and co- and first-adjacent channel spacings to other LPFM stations.⁵⁰ “[D]istance

⁴⁷ *Creation of Low Power Radio Service, Memorandum Opinion and Order on Reconsideration*, FCC 00-349 ¶ 1 (2000), citing *Report and Order*, 15 FCC Rcd 2205 (2000).

⁴⁸ *Id.*

⁴⁹ *Creation of a Low Power Radio Service Report and Order*, 15 FCC Rcd 2205 (2000).

⁵⁰ *Creation of a Low Power Radio Service, Second Report and Order*, FCC 01-100 at ¶ 3 (2001) (amending the rules to prescribe LPFM station third adjacent channel interference protection

separations were based on the sum of the distances to: (1) the F(50,50) contour of the “protected” station; and (2) the F(50,10) contour of the ‘interfering’ station as calculated in accordance with 47 C.F.R. §§ 73.313 and 73.333. Full power and LPFM stations were assumed to operate at maximum facilities. Class B stations were protected to the 54 dBu F(50,50) contour and Class B1 stations to the 57 dBu F(50,50) contour. All other classes of stations (including LPFM stations) were protected to the 60 dBu F(50,50) contour.”⁵¹

46. As discussed herein, NJBA proposes that, for all LP100 stations and similarly sized translators licensed to New Jersey communities, the rules be amended to employ spacings based on the use of, and which provide protection to, the 44 dBu (50,50) contour as the protected contour for full power, commercial FM broadcast facilities licensed to New Jersey communities, assuming maximum permitted facilities for each station. NJBA also proposes the use of the 20 dB D/U ratio for the second adjacent channel. Exhibit 4 sets forth proposed minimum spacing requirements between LP100 stations and full power FM stations in New Jersey, for

standards). *See also Creation of Low Power Radio Service*, Report and Order, 15 FCC Rcd 2205 (2000). The Commission’s initial LPFM technical rules did not impose third-adjacent channel minimum distance separation requirements on LPFM stations. The Commission subsequently adopted complaint and license modification procedures to ensure that significant third-adjacent channel interference problems would be resolved expeditiously. *Creation of Low Power Radio Service*, 15 FCC Rcd 19208 (2000). The Commission was subsequently required by an act of Congress to impose third-adjacent channel minimum distance separation requirements on LPFM stations, and to conduct independent field tests and an experimental program to determine whether the elimination of third-adjacent channel protection requirements would result in LPFM stations causing harmful interference to existing FM stations operating on third-adjacent channels. *D.C. Appropriations — FY 2001*, Pub. L. No. 106-553, § 632, 114 Stat. 2762, 2762A-111 (2000). *See also Creation of Low Power Radio Service*, 16 FCC Rcd 8026 (2001). *See Creation of a Low Power Radio Service, Second Report and Order*, FCC 01-100 (April 02, 2001) (adopting third adjacent channel spacing requirements). On February 19, 2004, the Commission reported its findings to Congress, recommending the elimination of third adjacent minimum distance separation requirements. *Report to the Congress on the Low Power FM Interference Testing Program* Pub. L. No. 106-553, February 19, 2004.

⁵¹ *Creation of a Low Power Radio Service*, FCC 01-100 at para. 3.

incorporation in Section 73.807 of the Commission's rules. Exhibit 5 sets forth proposed values governing overlap of the interference contours of translator stations and protected contours of full power FM stations in New Jersey, for incorporation in Section 74.1204(a) of the Commission's rules. LP10 stations and LP Translators are inefficient uses of scarce and congested spectrum in New Jersey and should be prohibited in the state.

47. NJBA believes that these standards describe a reasonable service area in light of the unique circumstances facing the New Jersey audience. At this time, NJBA is not requesting modification of the Table of Allotments. Nor is NJBA asking for any change to current rules or policies regarding full power broadcast stations. The Commission should impose an immediate freeze on the acceptance for filing and grant of any applications for construction permits or licenses for LPFM or translator stations in the state of New Jersey, pending the disposition of this Petition. However, NJBA does not propose that the Commission revoke licenses that have been previously granted. The proposals presented in this Petition are carefully calibrated to protect New Jersey listeners from material loss of service from interference. Adoption of NJBA's proposal will serve the Commission's interest in both localism and spectrum efficiency.

B. LPFM and Translator Stations Do Not Contribute to Spectrum Efficiency

48. For some time, the Commission has recognized the need for increased spectrum efficiency in the FM band because of the increase in the number of stations since 1983.⁵² Unfortunately, its actions have not always followed in step with its words. Exhibit 6 illustrates the large area of spectrum space occupied by the interfering contours of LPFM stations compared

⁵² *1998 Biennial Regulatory Review — Streamlining of Radio Technical Rules in Parts 73 and 74 of the Commission's Rules*, FCC 00-368, para. 23 (2000) (“The substantial increase in the number of licensed stations since 1983 magnifies the need for measures to increase the efficiency of FM spectrum use”).

to the relatively small areas serviced by such stations. An LP10 station operating at maximum facilities has a service area of 12.36 square miles. Using the Commission's current standards, the interference contour for an LP10 ranges from 126.26 square miles, with respect to Class A stations, to 244.69 square miles, with respect to Class B stations. In other words, for a service area of a mere 12.36 square miles, an LP10 carves out an area of interference that is almost 2000% larger with respect to Class B stations. In New Jersey, this would result in cannibalization of existing service.

49. As applied to New Jersey, creation of the LPFM service, and more particularly the LP10 service, as well as the authorization of LP Translators, is diametrically opposed to the Commission's goal of a spectrum efficient FM service. The decision to create an LP10 Class constitutes an almost complete about-face from previous efforts to deal with the inefficiencies of 10-watt stations and translators and their preclusive effect on "the establishment or extension of operations to bring service where it was needed."⁵³ The harm these low power stations will create far outweighs any benefit they will provide and the Commission should preclude their establishment in the state of New Jersey.

50. The Commission's new LP10 class of stations will create the same problems now that led the Commission to impose a freeze on similarly situated stations in the late 1970s. As the Commission concedes, the FM landscape is far more cluttered today than it was when the Commission took that action.⁵⁴ The preclusive effect these stations will have on the provision of service where needed is exponentially greater now than when the Commission imposed its freeze.

⁵³ *Changes in the Rules Relating to Noncommercial Educational FM Broadcast Stations*, 70 FCC 2d 972, 973 (1979).

⁵⁴ See n. 18, *supra*.

51. A significant problem with the earlier Class D low power stations was that:

the assignment ... proceeded on a demand system without any attempt ... to have a Table of Assignments of channels to particular localities or, in any part of the country, to require the use of at least minimum facilities. **The consequence was an inefficient pattern of assignments.**⁵⁵

Nevertheless, that is precisely the regime the Commission has established for both translator stations and LPFM stations. Perhaps unintentionally, the Commission has resurrected nearly the exact scheme that, over twenty years ago, it determined failed to serve the public interest. It is crucial that the Commission step back and take into account the debilitating state of affairs in New Jersey broadcasting, to take all possible steps to avoid aggravating the situation.

52. The Commission's licensing model also fails to take into account changing FM listening patterns. The FM audience no longer consists of static listeners, sitting at home, receiving FM signals from a fixed antenna. Instead, the audience has become dynamic, listening primarily in a mobile environment with more challenging reception requirements. The dynamic nature of the FM audience is evidenced by Exhibit 7, which details listening location performance for WKXW-FM, Trenton.⁵⁶ Eighty-two percent of the station's winter cume audience was in car. When considered as a percentage of AQH audience, in-car audience was 57%.

53. With the indiscriminate invasion of LPFM and translator stations in New Jersey, the mobile listener will typically drive into one or more large areas of interference. If New Jersey had received an equitable allotment of full power FM stations, these interference regions might be less pervasive. But in a broadcast environment relying disproportionately on disadvantaged

⁵⁵ Changes in the Rules Relating to Noncommercial Educational FM Broadcast Stations, 70 FCC 2d 972, para. 5 (1979).

⁵⁶ WKXW-FM listener statistics are further described in paragraphs 72 *et seq.*

Class B and underpowered Class A stations, the effect will be catastrophic. Listeners expect interference free reception. They will not tolerate fluctuating signals arising from squalls of interference, as they drive through the signals of LPFM and translator stations scattered through the service areas of full power FM stations. The result will be the wholesale abandonment of New Jersey FM by its audience in favor of clear reception from satellite, CDs and MP3s. The Commission cannot wish to preside over the dismemberment of FM broadcasting in New Jersey.

54. The licensing of LPFM and translator stations without adequate regard for the existing FM service, at least in the state of New Jersey, will severely degrade commercial band FM service, perhaps beyond repair. This rulemaking petition requests that the Commission take the logical step of examining how available spectrum can be put to the best use to prevent the further debilitation of a handicapped service, and to explore how to strengthen that service.

55. The Commission claims to have “safeguarded the technical integrity of the FM band since 1962.”⁵⁷ That statement is open to question in the case of New Jersey. There is no question, however, that more recent Commission decisions — specifically its adoption of rules establishing an LPFM service (and particularly the LP10 service) and its recent opening of a window for the virtually unfettered filing of translator station applications — might rob much of the state of the limited service it currently enjoys.

56. These actions must be viewed in their historical context. Had the state been more equitably treated over the years since FM’s inception these decisions might be less catastrophic to New Jersey’s broadcasters.

⁵⁷ *1998 Biennial Regulatory Review — Streamlining of Radio Technical Rules in Parts 73 and 74 of the Commission's Rules*, FCC 00-368, para. 23.

C. The Commission Should Freeze New Jersey LPFM and Translator Applications While It Explores How to Proceed with Digital Audio Broadcasting

57. On April 15, 2004, the Commission issued a *Further Notice of Proposed Rule Making* seeking comment on what rule changes and amendments are necessary due to the advent of digital audio broadcasting (“DAB”).⁵⁸ Among other things, the Commission will revisit Section 73.313 of the Commission’s rules to determine whether predictions of field coverage should continue to be made without regard to interference.⁵⁹ It would not make sense to grant hundreds of new LPFM and translator applications — which will increase interference in New Jersey — before the DAB enquiry has an opportunity to determine whether this rule needs to be modified to encompass the different nature of digital audio transmissions.

58. The Commission has selected in-band, on-channel (“IBOC”) as the technology enabling AM and FM radio broadcast stations to commence digital operations. In hybrid mode, the IBOC system places digital information on the frequencies immediately adjacent to the analog signal. The addition of hundreds of LPFM and translator stations into New Jersey, where most FM stations are already severely short-spaced and underpowered, will lead to further adjacent band interference, possibly precluding the introduction of DAB to the state.

59. The history of Commission action in New Jersey has been to treat the state as an afterthought. The appropriate forum for determining the best method of assuring the introduction of IBOC to New Jersey is in the DAB rulemaking proceeding. The grant of new LPFM and translator applications would be tantamount to a premature decision on the future of DAB in New Jersey. New Jersey must not be excluded from the digital revolution. The Commission

⁵⁸ FCC 04-99, MM Docket No. 99-325.

⁵⁹ *Id.* at para. 53.

should freeze consideration of all New Jersey LPFM and translator applications while it explores how to proceed with DAB.

IV. NEW JERSEY'S PROPOSAL WILL FOSTER IMPORTANT COMMISSION POLICIES

60. NJBA's proposal will foster important Commission policies. NJBA proposes that special steps be taken to insure against deterioration of an already inequitable situation with respect to the allotment of FM stations to New Jersey communities. Improved local service, efficient utilization of scarce radio broadcast spectrum and the establishment of a competitive marketplace are each important Commission objectives. NJBA's proposal is not only consistent with, but will foster these objectives.

A. The Public Interest is Better Served by the Preservation of the Integrity of the FM Broadcasting Service in New Jersey

61. NJBA recognizes that implementation of its proposal will reduce the number of LPFM and translator stations that may be authorized in the state of New Jersey. Its goal, however, is not to stifle these services, but to ensure the maintenance of service that the listeners of New Jersey's stations have come to know and expect of their stations despite the New Jersey Anomaly.⁶⁰ NJBA does not deny that the public interest is served by "provid[ing] opportunities for new voices to be heard," but not at the cost of silencing existing voices, which in many cases have reliably served the New Jersey public for forty to fifty years and more. The public interest

⁶⁰ *Modification of FM and TV Authorizations to Specify a New Community of License ("Modification of FM Licenses")*, 4 FCC Rcd 4870 (1989), *recon. granted in part*, 5 FCC Rcd 7094, 7097 (1990) (the public has a legitimate expectation of continued local service).

is also served, indeed, better served, through the “preserv[ation] [of] the integrity and technical excellence of existing FM radio service.”⁶¹

62. Current rules, however, do not reflect this balance. The Commission’s minimum distance separation requirements for LPFM stations simply do not provide New Jersey stations the adequate protection the Commission sought to achieve by adoption of its minimum distance separation methodology. Likewise, the translator contour protection rules provide inadequate protection to New Jersey radio stations. Put another way, given the unique characteristics of the state of New Jersey, a significant issue exists regarding contour overlap into populated areas already receiving regularly used, off-the-air signals of authorized co-channel, first, second or third adjacent channel broadcast stations resulting in interference to the reception of those signals.

63. The Commission created the LPFM service under the banner of localism. However, nothing is more local than commercial New Jersey radio. Unlike much of the rest of

⁶¹ Another dimension of spectrum efficiency in New Jersey relates to inconsistent Commission rules governing commercial and noncommercial translators that are co-owned by the licensee of the primary station. Under Section 74.1232(d) of the Commission’s rules, the licensee of a commercial station is prohibited from operating a translator with a coverage contour that extends beyond its protected contour. There is no corresponding restriction on noncommercial licensees. Moreover, noncommercial licensees are permitted to extend their reach into the commercial band under Section 74.1202(b)(2). In view of the state of FM broadcasting in New Jersey, the Commission should review the advisability of applying the same rules to all FM translator stations broadcasting in the commercial band. With the set aside of the reserved band for noncommercial purposes, the Commission should explore whether the public interest will be better served by requiring translators that are co-owned or operated by noncommercial stations either to operate solely in that band or, if they are to be permitted in the commercial band, to be limited to fill-in rebroadcasting. Likewise, in order to preserve the Commission’s scarce resources, FM translator applications proposing to receive their signals from translator stations that are also in the application stage should be refused, until the first translator station application is granted. Unless and until the first translator station application is granted, chained translator applications are merely contingent proposals, and should be denied in accordance with Section 73.3517 of the Commission’s rules.

the country, the vast majority of New Jersey radio stations are owned and/or operated by New Jerseyites committed almost solely to serving the needs and interests of their local communities. Large groups are the exception rather than the norm in New Jersey. Of the 46 New Jersey FM stations, an aggregate of only 10 stations are licensed to groups with a national presence. Among the remaining groups, one has a presence in four states and another in two, accounting for another nine New Jersey FM stations. The remaining 27 stations are licensed to New Jersey groups or owners of singleton FM stations.

64. New Jersey radio stations are on the front lines, operating 24 hours per day seven days per week and are a critical link in the Emergency Alert System. LPFM and translator station interference to New Jersey broadcast stations could critically impair New Jersey broadcasting from fulfilling their duty to inform their listeners of critical information.

65. LPFM stations, on the other hand, are required to operate only ten hours per day, have no EAS obligations and are subject to few if any public interest obligations. Their operation detracts from localism in the New Jersey Anomaly environment, particularly after taking into account the negative impact they will have on existing broadcast stations.

66. New Jersey stations, more than half of which are Class A stations, the vast majority of which operate at less than the maximum permitted for the class, fill the void with programming most attuned to the needs and interests of their local communities. As demonstrated herein, however, this is becoming an increasingly difficult proposition. Amendment of the Commission's rules as proposed in this Petition is necessary to preserve the integrity of FM broadcasting in New Jersey from interference.

B. Protection to the 44 dBu Contour is Necessary to Protect New Jersey Stations from Harmful Interference

67. The Commission's FM translator rules currently provide for the protection of a station's existing listening area and not just its primary contour. Regardless of whether contour overlap will occur, an FM translator station application will not be accepted for filing if:

the predicted 1 mV/m field strength contour of the FM translator station will overlap a populated area already receiving a regularly used, off-the-air signal of any authorized co-channel, first, second or third adjacent channel broadcast station ... and grant of the authorization will result in interference to the reception of such signal.⁶²

In granting this protection, it thereby recognizes that listenable service extends beyond the 60 dBu service contour. Adoption of the predicted 44 dBu F(50,50) contour as the protected contour for full power, commercial FM broadcast facilities, and the use of the 20 dB D/U ratio for the second adjacent channel is necessary to protect to the limit of a full power station's listenable service area.

68. Exhibits 8 and 9 present dramatic empirical evidence demonstrating that two representative New Jersey Class A broadcast stations have significant coverage well beyond their 15-mile, 60 dBu protected contours. WDHA-FM is a Class A station licensed to Dover, NJ. The following table summarizes listenership data for WDHA as a function of distance from its transmitter site.⁶³

⁶² Section 74.1204(f) of the Commission's rules. *See also* Section 74.1203(a) of the Commission's rules (defining interference as the impairment of "reception of a regularly used [broadcast] signal ... regardless of the quality of such reception").

⁶³ All audience data in Exhibits 8, 9, and 10 are conservative two-book averages (Fall/Spring), to eliminate spikes.

	Miles from signal	Listeners	% of Listeners
Outside Protected Contour	0 - 15	86,200	39.85%
	15 - 25	79,800	36.89%
	25 - 35	32,900	15.21%
	35+	17,400	8.04%
	Total:	216,300	100.00%

69. WHTG-FM is a Class A station licensed to Eatontown, NJ, with a transmitter site located approximately 4.6 miles from the Atlantic coast. The following table summarizes listenership data for WHTG.

	Miles from signal	Listeners	% of Listeners
Outside Protected Contour	0 - 15	66,100	52.05%
	15 - 25	18,900	14.88%
	25 - 35	17,300	13.62%
	35+	24,700	19.45%
	Total:	127,000	100.00%

70. Slightly more than 60% of WDHA-FM's listenership is located outside of its 60 dBu protected contour. Almost 48% of WHTG-FM's listeners are located outside of its 60 dBu protected contour. What is especially remarkable is that neither station operates at maximum facilities for its class. WDHA-FM operates at 73% of maximum and WHTG-FM at 71%. Moreover, WHTG-FM is located near the coast; thus, a substantial segment of the distant portion of its signal is over the unpopulated Atlantic Ocean.

71. Special notice should be taken of the number of listeners located more than 35 miles from the stations. A 44 dBu protected contour corresponds to a 58.7 km or 36.47 mile radius for a 6 dB Class A operating at maximum facilities. Thus, if the Commission adopts a 44 dBu protected contour as proposed herein, almost 8% of WDHA-FM’s listeners will still lose broadcast service from the station. An astonishing 20% of WHTG-FM’s listeners will lose service, even under a 44 dBu protected contour. NJBA emphasizes that objective criteria support the promulgation of a protected contour in New Jersey that is 34 or 40 dBu. Recognizing the Commission’s expressed desire to foster a low power FM service, however, and taking into account the unique circumstances in New Jersey that would lead to severe loss of service, an appropriate place to strike the balance would be at the 44 dBu protected Contour.

72. Exhibit 10 demonstrates that Class B stations also furnish service far beyond their protected contours. WKXW-FM is a Class B station licensed to Trenton. The following table summarizes listenership for WKXW-FM:⁶⁴

Miles from signal	Listeners	% of Listeners
Inside protected contour (40.7 miles)	749,300	72.30%
Outside protected contour	287,100	27.70%

73. As was true of its Class A counterparts —WDHA-FM and WHTG-FM — WKXW-FM performs yeomanly service, bringing its signal to the New Jersey audience, far beyond its protected contour. Indeed, in the recent *Monmouth* proceedings, the Commission took

⁶⁴ Because of the impracticality of estimating audience in counties that are bisected by the protected contour, WKXW treated corresponding county data as falling both inside and outside the contour. This should not have an appreciable effect on the relative percentages of audience.

into account WKXW-FM's reach in New Jersey, furnishing 24-hour coverage of New Jersey news, traffic, weather and information.⁶⁵

74. WDHA-FM and WHTG-FM are striking examples of how New Jersey Class A stations are performing the function of Class B stations. Unless the protected contours of New Jersey stations are increased as proposed herein, many of the listeners of these stations — up to 60% for WDHA-FM and up to 48% for WHTG-FM — will lose broadcast service on the stations' frequencies. WKXW-FM is a sterling example of how a Class B station is bringing local coverage far outside its protected contour. Indeed, it would be completely inconsistent with the Commission's findings in the *Monmouth* proceeding⁶⁶ to allow WKXW-FM's service area to be fragmented by interference from LPFM and translator stations. More significantly, no new voice will enter the broadcast environment to replace the service furnished by these stations. Much of the spectrum formerly occupied by full power FM stations — outside their protected contours — will be lost to interference.

75. Further support for adoption of a 44 dBu protected contour is found in Exhibit 11, "FM Stereo Receiver Performance with Low Signal Levels Co-channel and Second Adjacent Channel Interference" (the "Keller Summary").⁶⁷ The Keller Summary is a summary of relevant data from the *FM Receiver Interference Laboratory Test Report* (1999), prepared for National

⁶⁵ *Nassau Broadcasting II, LLC, Assignor and Millennium Shore License Holdco, LLC, Assignee For Consent to Assignment of Licenses of WADB(AM), Asbury Park, NJ, WJLK-FM, Asbury Park, NJ, and WBBO(FM), Ocean Acres, NJ, Seashore Broadcasting Corp., Assignor and Millennium Shore License Holdco, LLC, Assignee For Consent to Assignment of License of WOBM-FM, Toms River, NJ, North Shore Broadcasting Corp., Assignor and Millennium Shore License Holdco, LLC, Assignee For Consent to Assignment of License of WOBM(AM), Lakewood Township, New Jersey, 17 FCC Rcd 9001 (2002).*

⁶⁶ *Id.*

⁶⁷ Prepared by Tom Keller, April 6, 2004. Mr. Keller is a consultant to the Consumer Electronic Association.

Public Radio, Consumer Electronic Association and the Corporation for Public Broadcasting, and from receiver characterization tests conducted for the National Radio Systems Committee (“NRSC”). Because of the difficulty of converting laboratory measurements to field measurements, the Keller Summary describes the reference point from which other data can be calibrated. The NRSC found that for a FM field strength of 60 dBu, the power level input was approximately -65 dBm. The field strength for other signal levels can then be determined by adding or subtracting the corresponding power level change in units of dB.

76. Table 1 of the Keller Summary shows the receiver RMS signal to noise (“S/N”) ratios at seven signal levels. At the reference level of -65 dBm, S/N performance ranged from 54 to 66 dB. Receivers were then tested with progressively lower signal strengths, at 5 dB intervals. These gradations correspond to comparable reductions to the predicted field strength in 5 dB increments. Thus a power level of -80 dBm (15 dB below the -65 dBm reference level) extrapolates to a corresponding field strength of 45 dBu (15 dB below the reference level of 60dBu). The study found that at the -80 dBm/45 dBu level, S/N performance was still reasonable, ranging from 41 to 67 dB.⁶⁸ Accordingly, the NJBA proposed 44 dBu protected contour is well supported by laboratory tests.⁶⁹

77. Both actual listenership data and the Keller Summary justify adoption of a 44 dBu protected contour for commercial FM stations in New Jersey. Because New Jersey has been shortchanged in the allotment of FM stations, adoption of an appropriately calibrated protection

⁶⁸ The S/N figures at the higher end of the range are probably attributable to the blending of the two stereo channels to mono.

⁶⁹ *See also* Petition for Rulemaking (RM-9395) of USA Digital Radio Partners to permit the introduction of digital audio broadcasting in the AM and FM services (defining the 44 dBu contour as the extent of listenable FM service for the average listener).

contour for FM stations allotted to New Jersey communities will prevent the further deterioration of service to the New Jersey FM audience.

78. In addition to justifying adoption of a 44 dBU protected contour, the Keller Summary definitively concludes that the current 20 dB co-channel protection ratio penalizes Class A stations and that a reduction in interference will improve the performance of all receivers equally. It likewise concludes that reducing the undesired interference limit from -40 dB to -20 dB for second adjacent channels will reduce interference on the majority of non-automobile radios. NJBA's proposal will prevent further erosion of reception in New Jersey.

79. The interference situation is also dramatically affected by the performance of today's radios. A rational policy cannot be implemented without first factoring radio performance into the equation. A basic proposition deriving from the laws of physics is that "Interference does not carry a nametag." A radio receiver cannot distinguish between locally originated source of interference, e.g., LPFM stations, and a non-locally originated source, e.g., translator stations. A 100-watt translator will create the same interference as a LP100 and vice versa. The Commission's rules, however, treat the two services as if receivers can distinguish between them. For example, the Commission's LPFM spacing rules incorporate a 20-kilometer interference buffer, yet there is no such provision in the translator rules. The rules should be amended so as to require consistent separations from full power stations as proposed herein.

80. As discussed above, grant of LPFM and FM translator applications based upon the current spacing and second adjacent protection ratios will create a disastrous interference problem in New Jersey. Attached as Exhibit 12 is the Technical Report of Charles M. Anderson. Mr. Anderson's report summarizes the analysis of interference that will be caused to licensed full

service FM stations in New Jersey by proposed New Jersey FM translators that have either been accepted for filing or filed as singletons and are pending acceptance.⁷⁰

81. Mr. Anderson examined a total of 28 such applications and concluded that grant of 26 of the applications will cause interference with one or more full power New Jersey commercial FM stations based on the use of the 44 dBu (50,50) protected contour and the 20 dBu second-adjacent channel ratio.⁷¹ Fifteen of the 28 applications will cause interference to populations of 1,000 or more; 13 will cause interference to populations of 10,000 or more; and, most drastically, seven will create new interference to nine stations, affecting populations in excess of 100,000. The following eight applications represent the most egregious cases of interference out of 28 applications studied:

Proposed Translator	Station Receiving Interference	Interference Population	Interference Area (sq km)
BNPFT20030825AHK 252D Lakewood, NJ	WMGQ 252A E-1 New Brunswick, NJ	525,161	1,734
	WBBO 253A E-2 Ocean Acres, NJ	407,742	881
BNPFT20030828AAN 289D Trenton, NJ	WCHR-FM 289B E-3 Manahawkin, NJ	936,123 (769,563NJ)	1,575
BNPFT20030827AHH 290D Hackettstown, NJ	WCAA 290B1 E-4 Newark, NJ	349,199	1,102
BNPFT20030827AHA 276D Pompton Lakes, NJ	WPRB 277B E-5 Princeton, NJ	366,337	269
BNPFT20030827AGO Clinton, NJ	WOJZ 285B1 E-6 Egg Harbor, NJ	142,271	155

⁷⁰ Some of the translator applications currently filed with the Commission were filed by NJBA members in order to improve coverage. However, NJBA does not expect special treatment for applications filed by its members. Any translator applications currently before the Commission — including any filed by NJBA members — that do not meet the proposed protection criteria should be denied.

⁷¹ The analysis in Exhibit 12 is based on 44 dBu contours predicted from facilities as licensed.

BNPFT20030827AFX 288D Atlantic Highlands, NJ	WDHA-FM 288A E-7 Dover, NJ	6,656,348 (941,065NJ)	1,770
	WCHR-FM 289B1 E-8 Manahawkin, NJ	190,655	453
BNPFT20030828ALY 248D West Milford, NJ	WPST 248B E-9 Trenton, NJ	797,661	675
BNPFT20030828ABC 272D New Gretna, NJ	WAIV 272A E-10 Cape May, NJ	104,311	765

The maps included as Attachments E-1 through E-10 to Exhibit 12 graphically portray the areas of interference. What is especially striking is that audience in the shaded areas will lose service to interference. For these listeners, another station will be stripped from the New Jersey FM dial.

82. In practice, many New Jersey FM stations will be vulnerable to interference from multiple translator stations. The maps in Exhibit 13 depict the interference that will be experienced by the three stations for which listenership data is presented in paragraphs 68 *et seq.*: WDHA-FM, WHTG-FM, and WKXW-FM.⁷² The following chart summarizes the expected interference.

Station	Interference Population	Interference Area (sq km)
WDHA-FM	6,661,186	1,821.9
WHTG-FM	9,635,704	5,883.1
WKXW-FM	8,184,004	3,014.0

Based on these examples, it can be expected that interference from translators will severely encroach in several directions upon the demonstrated service areas of New Jersey stations.

⁷² The maps of WDHA-FM and WKXW-FM are based on 44 dBu contours predicted from facilities as licensed. To give a more complete picture of how interference would affect under-powered Class A stations, if they had been licensed to operate as full Class A stations, the map of WHTG-FM employs a 44 dBu contour based on a maximum class facility.

83. Under Section 303(g) of the Communications Act, the Commission is tasked with the responsibility of “generally encourag[ing] the larger and more efficient use of radio in the public interest.”⁷³ Commission policy historically encouraged licensees to improve service by upgrading their facilities. For example:

- In 1984, the Commission adopted a policy to permit existing FM licensees to upgrade to a higher-class channel where there were no other expressions of interest for the channel or where at least one other channel of equivalent class was available in the community.⁷⁴
- Two years later, it adopted a policy permitting FM stations to upgrade class on a co or adjacent channel mutually exclusive with the licensee’s existing channel without being subject to competing proposals.⁷⁵
- The Commission has allowed groups of broadcasters to upgrade where the change is necessitated by reception problems.⁷⁶
- The Commission permitted routine authorization of FM stations at nominally short-spaced transmitter locations as long as other stations are protected from interference.⁷⁷

⁷³ 47 U.S.C. Section 303(g).

⁷⁴ *Amendment of the Commission’s Rules Regarding the Modification of FM and Television Licenses*, 98 FCC 2d 916 (1984).

⁷⁵ *Amendment of the Commission’s Rules Regarding Modification of FM Broadcast Licenses to Higher Class Co-Channel or Adjacent Channels*, 60 RR 2d 144 (1986).

⁷⁶ *See Nighttime Power Limitations for Class IV Stations*, 55 RR 2d 1015 (1984) (authorizing across the board increases in nighttime power to 1000 watts for Class IV AM stations). *See also, Antenna Height Power Limits*, 53 RR 2d 1351 (1983) (allowing Puerto Rico Class A stations to increase antenna heights without corresponding power reductions due to coverage problems created by rugged uneven terrain).

In the same manner that the Commission's *Short-Spaced FM Proceeding* increased "the opportunity for new, enhanced or expanded service"⁷⁸ NJBA's proposal represents an opportunity for enhanced and expanded service and improved spectrum efficiency.

84. The implementation of a policy fostering the grant of inferior facilities, i.e., LPFM and translator stations, at the expense of, and without affording adequate protection to, existing local service, fails to serve the public interest in enhanced and expanded service and improved spectrum efficiency.⁷⁹ Grant of NJBA's proposal will serve the public interest in that it will permit the implementation of the Commission's plans and policy objections for non-interfering LPFM (and translator stations) while at the same time protecting the substantial investment licensees have made in their facilities in order to meet the reception expectations of their audiences and best serve the listening public and the public interest.

85. Historically, the Commission has sought out and implemented a means by which to ameliorate reception problems.⁸⁰ Likewise the Commission has long focused on ways in

⁷⁷ *Amendment of Part 73 of the Commission's Rules to Permit Short-Spaced FM Station Assignments by Using Directional Antennas* ("Short-Spaced FM Proceeding"), 4 FCC Rcd 1681 (1989), recon granted in part, 6 FCC Rcd 5356 (1991).

⁷⁸ *Amendment of Part 73 of the Commission's Rules to permit short-spaced FM station assignments by using Directional Antennas Notice of Inquiry*, 2 FCC Rcd 3141; para. 6 (1987).

⁷⁹ *Docket 80-90, Memorandum Opinion and Order*, 97 FCC 2d 279, 285 (1984) ("stations operating with larger facilities are more 'efficient' from an engineering standpoint, than stations operating with inferior facilities").

⁸⁰ *See, e.g., Nighttime Power Limitations for Class IV Stations*, 55 RR 2d 1015 (1984) (authorizing Class IV stations to implement an across the board increase in nighttime power to 1000 watts to help overcome reception problems). *See also Antenna Height-Power Limits*, 53 RR 2d 1351 (1983) (Class A FM stations in Puerto Rico authorized to increase power to combat terrain induced coverage problems).

which to foster spectrum efficiency in the AM and FM radio bands.⁸¹ Grant of NJBA's proposal will be in the tradition of those actions. NJBA's proposal will enhance spectrum efficiency and check the New Jersey Anomaly while still allowing for the implementation of new service as contemplated by the Commission.

CONCLUSION

NJBA has demonstrated that FM broadcast stations are not fairly, efficiently or equitably allotted to New Jersey, contrary to the strictures of Section 307(b) of the Communications Act. Because higher powered stations have been unfairly and inequitably allotted to the neighboring states of New York and Pennsylvania, New Jersey relies disproportionately on underpowered Class A stations for local service. A consequence of this inequitable situation is that New Jersey stations are particularly vulnerable to encroaching interference.

NJBA's proposal offers the Commission a serious opportunity to, if not ameliorate inadequacies inherent to the FM service as it exists in New Jersey today, at least prevent substantial increase in interference to New Jersey's FM stations. In general, two ways exist to protect stations from interference. Additional interference can be avoided through parallel power increases, whereby affected stations increase power by the same level as interference from new sources, so that the current levels of interference are maintained. Alternatively, stations may be protected through grant of a higher level of protection.

NJBA proposes that the Commission pursue the latter course in this case as the most reasonable means by which to ensure localism, spectrum efficiency and the continued vitality of FM service in the state of New Jersey. Accordingly, NJBA proposes that the Commission amend

⁸¹ See *Amendment of Part 73 of the Commission's Rules to Permit Short-Spaced FM Station Assignments by Using Directional Antennas*, 6 FCC Rcd 5356 (1991) (allowing the use of directional antennas to accommodate short spaced transmitter sites for existing stations).

its minimum distance separation rules such that FM translator and Low Power FM stations proposing to operate in New Jersey be required to provide protection to the 44 dBu (50,50) contour as the protected contour for full power, commercial FM broadcast facilities, assuming maximum permitted facilities for each station, and the use of the 20 dB D/U ratio for the second adjacent channel, as the limit of a full service FM station's listenable service area. No LP10 or LP Translator applications should be accepted in New Jersey.

In order to ensure that resolution of the allocation issues raised in this Petition for Rulemaking will not be compromised, the Commission should impose an immediate freeze on the acceptance for filing and grant of any further applications for construction permits or licenses for LPFM or translator stations in the state of New Jersey pending the outcome of this rulemaking proceeding.

Adoption of NJBA's proposals will prevent the *AMization* (or the further *AMization*) of the FM band in the state of New Jersey. Left unchecked, the Commission's well meaning though misguided LPFM and translator policies will almost certainly lead to the same result to the FM band, i.e., multiple stations fighting for scarce spectrum in the state of New Jersey, dramatically increasing the New Jersey Anomaly, unless prompt and decisive preventative action is taken.

Wherefore, the premises considered, New Jersey Broadcasters Association respectfully requests that the Commission initiate a rulemaking proceeding looking toward the adoption of the proposals set forth herein.

Respectfully submitted,

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